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Tension in Performance

– The ISSTIP Journal

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A journal of the Performing Arts
dedicated to the physical and psychological tension in performance

Editors: Nancy Lee Harper
& Justin Krawitz
Summer 2015

ISSTIP

International Society for Study of Tension of Performance

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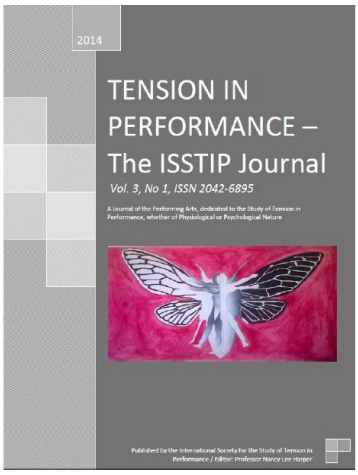

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EDITORIAL

By Professor Nancy Lee Harper

With this first issue of 2015, we welcome South African pianist, Justin Krawitz, as Co-Editor. Justin has recently accepted a post as Assistant Professor of Piano and Piano Pedagogy at the University of Northern Colorado. Previously, Dr. Krawitz has served on the faculties of the University of Cape Town, the University of Wisconsin-Madison, Luther College (Iowa), and Blue Lake Fine Arts Camp (Michigan). Following his performance of Karel Husa's First Piano Sonata, the Pulitzer prize-winning composer wrote, "the level of his artistry and commitment is extraordinary." Krawitz has performed with orchestras in his native South Africa and in the US, and has recorded for Czech Radio. Dr. Krawitz is an active clinician, with regular invitations to give masterclasses at music schools from North Carolina to Serbia. He has presented lectures and workshops in the US and abroad, such as at the 32nd International EPTA Conference (Ljubljana), the 2010 ISMTA Conference (DeKalb, IL) and the 2nd World Piano Conference (Novi Sad). His research interests include finger substitution on the piano and Czech piano music of the 20th century. He has been published in the EPTA *Piano Journal* and the ISSTIP Journal *Tension in Performance,* and he is an editor of the periodical *Martinů Revue.* Krawitz is an external collaborator of the Bohuslav Martinů Institute in Prague and a board member of the International Martinů Circle. Dr. Krawitz was a Paul Collins Fellow at UW-Madison from 2006-2009, a Donald Gordon Creative Arts Fellow at the University of Cape Town in 2011, and a URC Postdoctoral Fellow at UCT's South African College of Music from 2012-2014. (http://www.unco.edu/arts/music/music_faculty/krawitz.html, accessed on 17 June 2015).

In this issue we bring to you articles on "Simulating and Stimulating Performance" by myself; "Body Mapping for Tension Free Singing" by Melissa Malde; a study report on BIMM (British and Irish Modern Music) "Singers Performing Confidence Group" by Andy Evans and Valentina Passoni; and "Chopin, Arm Weight, and Folk Influences" by Steve Rodman. In addition, the Members' Corner features new members, new information about old members, and obituaries of members. Submissions guidelines appear later on in the journal.

Earlier this year, I was impressed by a report about the healing power of the voice. In the Northwestern Medicine and Hines VA Hospital clinical study, neuroscientist Theresa Pape "performed brain scans on 15 coma patients, including Godfrey [Catanus, who was medically induced into coma]. The results of that study…show that when patients heard unfamiliar voices, brain scans showed little activity, but when they heard close relatives calling out their names or talking, the scans lit up…Pape's team also asked the families to record stories loved ones would recognize and play them repeatedly for a month and a half using headphones. The stories were played for eight of the patients, including Godfrey. The other seven only heard silence. The eight patients that heard the stories recovered significantly faster. 'Just like doing jumping jacks over and over again, we think we're exercising those connections in the brain and we think that's helping us see the recovery of awareness,' Pape said. After three months, Godfrey came out of his coma severely disabled, but cognitively intact…He said he remembers hearing those voices while in the coma. 'Don't assume that just because they cannot speak or they don't open their eyes that they're not there.' The Northwestern Medicine and Hines VA study is available in the journal "Neurorehabilitation and Neural Repair." © *2015 CBS Interactive Inc. All Rights Reserved* at http://www.cbsnews.com/news/northwestern-medicine-hines-va-hospital-study-reveals-if-coma-patients-can-hear, accessed 31 January 2015. ISSTIP may one day wish to participate in a similar work.

NOTES FROM THE CHAIR

by Dr Hara Trouli

In our Annual General Meeting (AGM) last January in London we put some thought in planning the future of our organization. We need all new and old members' help in order to keep ISSTIP working for the health and wellbeing of performers around the world.

- From June 2015 we will re-start our monthly ***ISSTIP NEWS*** and we are aiming to have these sent to all our members via email.
- A new ***Facebook*** page is also in preparation and all our announcements along with a number of interesting topics will be posted. Please follow us and recommend us to your colleagues and students.
- From June 2015 we are creating an ISSTIP ***Members' Directory*** on our website www.isstip.org where members of our organization worldwide can advertise their services *free of charge*. This will enable performers to reach out to experts according to their needs and we would like to provide our members this opportunity. Our moto is *'Here to Help'* so please send us a short biography and your contact details and we will include you.
- A weekend of ***Seminars*** has been scheduled for 10th and 11th of October in London. One day is about instrumentalists and their muscle work and the second day is about mastering nerves. Participants can attend both days or only one. We are looking to help other ISSTIP members to organize similar events at their workplace or hometowns. We can provide material and tutors if necessary and we would be willing to guide you if you have interest in organizing these.
- ***Research*** is ongoing and we are looking to continue studies on tension in performance and to bring these to international events. In 2015, ISSTIP is participating at the Kyoto International Symposium for Performance Science (ISPS) and also the European Piano Teachers Association (EPTA) in Amsterdam. ISSTIP is always able to cooperate in multicenter projects and any members or non-members who have interest in researching related topics are encouraged to get in touch with us.

We will be producing two issues of our ***Journal*** every year in an effort to keep our members informed and up to date with the development of this exciting field of Performance Health that we are all participating in. Please keep sending us your work for publication and do email us with any questions and ideas at isstip@gmail.com.

"Simulating and Stimulating" Performance

By Nancy Lee Harper, DMA

INTRODUCTION

Do you, or your students, feel close to the precipice when performing? Does disaster always seem imminent? If you answered in the affirmative you may find this Forum, which covers topics related to bettering performance and performance preparation, to be helpful. Some pertinent scientific studies will be mentioned, and some technological and psychological tools will be presented.

Carola Grindea, who was instrumental in the founding of EPTA, used to say that for any performer there are three performances: 1) the one in the studio, or in practice; 2) the one onstage, or the actual performance; 3) the ideal performance, or the performance that we envision to be our most satisfying. The latter which may also occur in our practice, is rarely attained onstage. Even experienced artists admit that they have achieved their ideal performances only a handful of times during their careers. This unexpected assertion raises questions: Do we aim too high or expect too much of our students or ourselves? In performing, is failure an inherent part of the learning process? Does practice make perfect? How do we practice performance and are there any "safe" ways? What are the tools that can assist us in attaining closer perfection in performance? These questions will be addressed below.

SIMULATING PERFORMANCE

Virtual Simulation

One comprehensive tool for various kinds of training that has been developed as the result of technological advances is that of virtual environments. Virtual environments offer opportunities to develop performance skills when real-life opportunities are limited or lacking. These environments have been used effectively in aviation, surgery, and sports. By creating the illusion of real-life performance, these environments present to the learner a "lower risk of negative evaluation and outcomes." (Williamon *et al,* 2014: 5) By applying this tool to music performance, a recent study was created by Aaron Williamon, Head of Performance Science at the Royal College of Music (RCM) in London, and two of his colleagues. (Williamon *et al,* 2014: 5-25)

Recognizing that solo performance is the most stressful of all performance situations, Williamon's study involved 11 violinists from RCM. The group comprised 6 men and 5 women with the average age of 22.45 years. Their average playing experience was 16.18 years. All had begun studying at an early age with first performance at an average of 6.50 years of age. All performed regularly and practised close to 4 hours daily. The subjects were tested [Fig. 1] under two scenarios while performing the "Allemande" from J. S. Bach's *Partita no. 2 in D minor,* BWV 1004: "1. a recital with 24 virtual audience members [Fig. 2]; 2. an audition [Fig. 3] with three 'expert' virtual judges." (Williamon *et al,* 2014: 10)

Without going into all of the details of this multi-disciplinary study, the results showed that the musicians "found the simulations to be realistic and convincing…and recognizing their positive value for developing performance skills. Moreover, when examining participants' self-reported anxiety and physiological responses to performance stress in the simulated audition versus a real audition, there were no significant differences in state anxiety between the two conditions, while significant differences emerged in physiological responses for the pre-performance period, the direction of response was the same for both and there were no apparent differences during the performance…comparable psychological and physiological responses were evoked across both auditions, real and simulated." (Williamon *et al,* 2014: 17-18)

Previous results of studies by other authors in managing music performance anxiety have been mixed. "On the one hand, exposure to performing conditions using simulation has been shown to decrease state anxiety [anxiety of the moment or event]….On the other, [another study] found no discernible, consistent patterns of change in either self-reported anxiety levels or heart rate for musicians taking part in an intervention offering graded exposure to stressful performance situations." (Williamon *et al,* 2014: 6) The observation is that the varied backgrounds of the individuals who participated, their engagement into the experiment, and the quality of the follow-up interview determined these outcomes. (*Ibidem*)

In comparison with these other studies, Williamon's study was clear. The results "were essentially twofold: (1) **the simulations were realistic** and as such (2) the musicians felt that the **simulations could be used to enhance their performance**, fine tuning their stage skills and manage performance problems, such as debilitating anxiety." (Harper-Williamon, 10 October 2014)

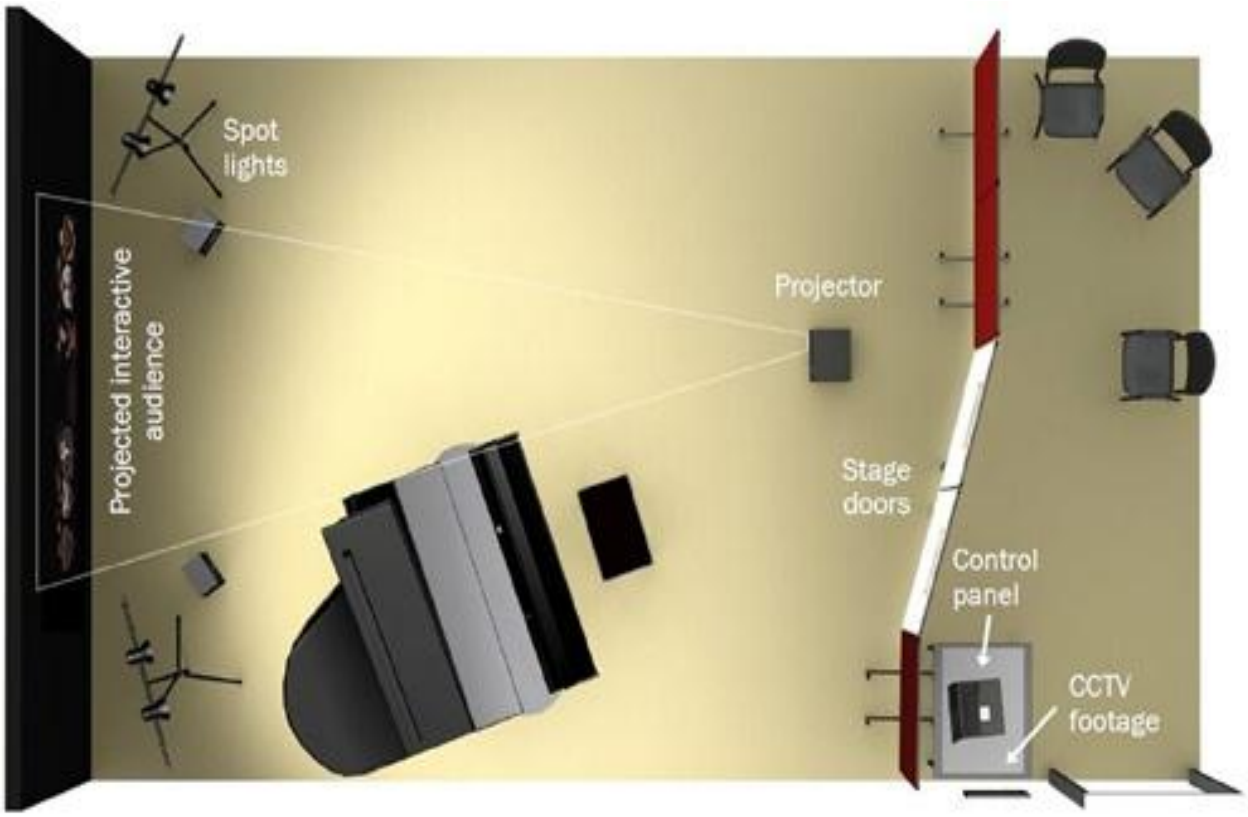

Figure 1. "The performance simulator, showing backstage (right) and stage (left) areas. Backstage, CCTV footage of the virtual audience or audition panel is shown on a wall-mounted flat-screen monitor, and controls for operating the audience and audition panel are located on a nearby computer. On stage, a ceiling-mounted beamer projects the life-sized audience or audition panel onto a wall, with spot-lights and loudspeakers on both sides. Stage curtains (not shown) frame the projected image." (Williamon *et al,* 2014: 10)

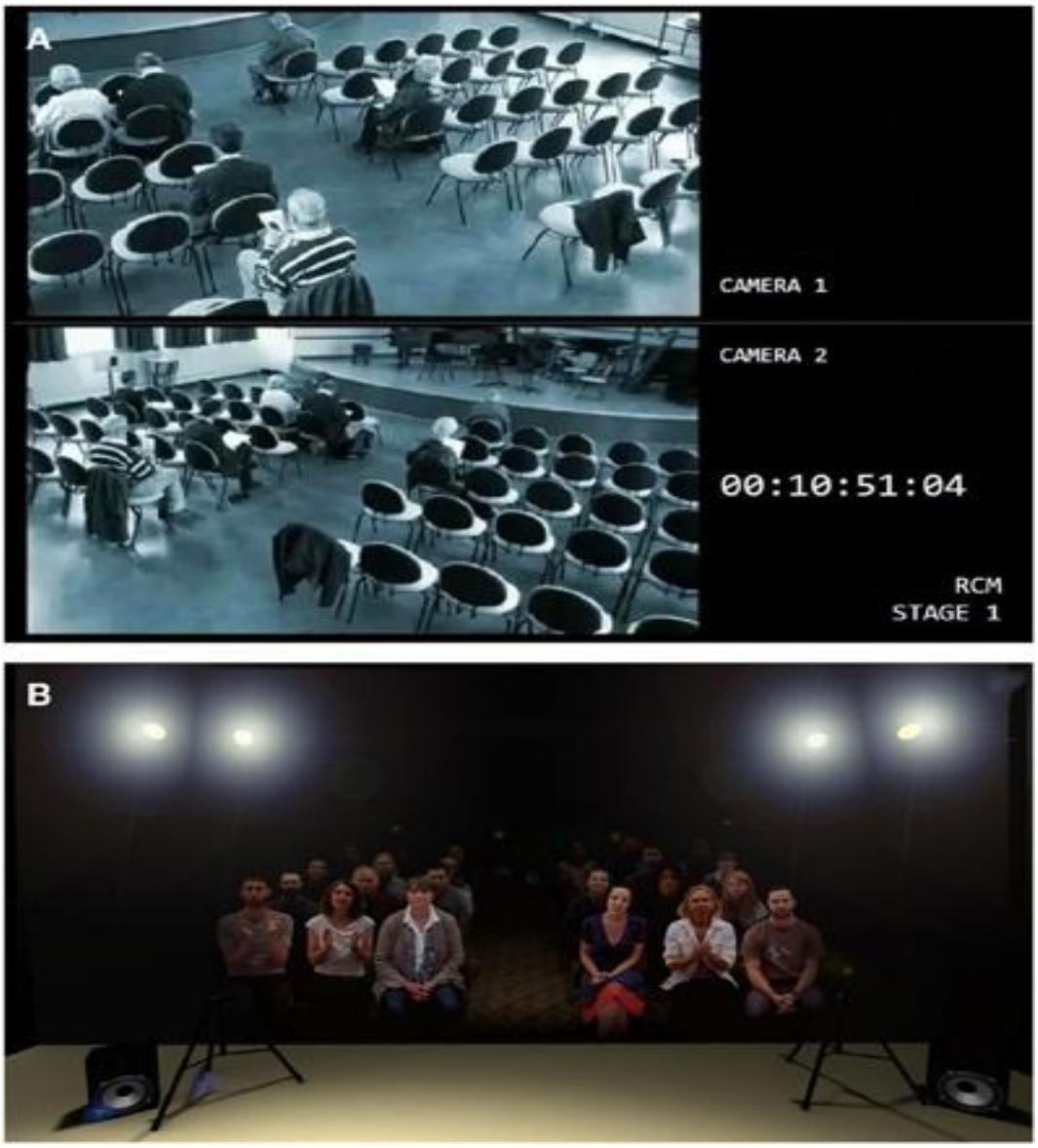

Figure 2. "(A) A still from the CCTV footage displayed in the backstage area of the recital simulation. **(B)** A still of the virtual audience projected in the stage area, framed by spot-lights, loudspeakers, and (not shown) stage curtains." (Williamon *et al,* 2014: 11)

Figure 3. "Stills of the virtual audition panel **(A)** responding positively, **(B)** showing displeasure, and **(C)** stopping the audition." (Williamon *et al,* 2014: 12)

STIMULATING PERFORMANCE

Practising Performance

The safe environment to "practise performance" that was afforded the violinists in the above study is one that teachers need for their pupils. Teachers often regularly schedule informal performance classes in their studios to allow the pupils to "try out" their repertoire before the moment that really counts. This can be an effective tool that strengthens pupils' onstage confidence. If performance could be practised enough, then theoretically performance jitters would be minimized. Psychologist Paul Lehrer once commented that if performers could perform at least five days in the week, they would conquer their nerves. Most of us would agree that some adrenalin is needed to give our best, to concentrate to the maximum, and to be able to play "in the zone". Rare, however, are repeated performances and opportunities to test this theory. All too often performers find themselves onstage wishing that they had had more preparation, which should not be confused with the practise of the notes.

Two other experiments – one with an Italian violin and piano duo (Facchini, 2014) and the other with solo oboe (Silva, 2014) — that were recently realized in the course of PhD studies in Portugal had important findings. A word of clarification here – the word *anxiety* refers here to the psychological state, while the word *stress* refers to physiological markers. Here are some of the findings of these two studies:

1. The duo clearly indicated reduced psychological anxiety and physiological stress through **repetition of performance**. The former was measured through the administration of psychological tests for state and trait anxiety, as well as others. The latter was measured by bio-mechanical markers (cortisol testing [Fig. 4]; EKG Holter-type monitoring [Fig. 5]). The duo was clearly more relaxed during their second series of recitals, in which they performed one piece from the first series plus new repertoire but maintained the same venues and times [Fig. 6].
2. In the case of the duo, the ironic finding was that the pianist was **more stressed with the long-time partner** than with the new violinist. The probable reason was that the duo aimed for perfection and had a certain reputation to maintain. In other words, the stakes were higher.
3. From perception tests administered to a selected "blind" audience, the long-term duo was their preference even though the pianist was the same in both and both violinists were of high professional standards with years of experience. The **synchronicity and dialogue of the long-term duo** was more perceptible than with the new partner.
4. In the case of the oboist, the selected audience, who also were measured with the same psychological and physiological assessments, showed **proportionate relaxation to the performer's stress**. In other words, the higher the physiological stress of the oboist, the more relaxed the audience [Fig. 7]. This is the mark of a true professional, that the musician is able to control the stress so as not to impede the performance. But why suffer so much for one's art?

Fig. 4. Cortisol testing instruments and swabs from Salimetrics used in both studies.

Fig. 5. Holter-type EKG monitoring devices and software with wearable T-shirts called *VitalJacket®*.

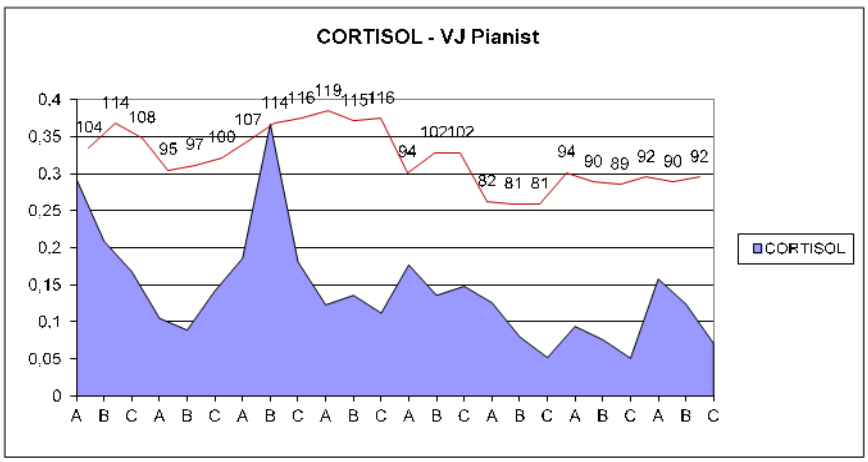

Fig. 6. Pianist's physiological measurements in three moments (A,B,C) of 8 recitals, in which Series I is constituted of the first four recitals and Series II is constituted of the last four recitals. It is clear how the stress has diminished in the second series both in cortisol and heart rate.

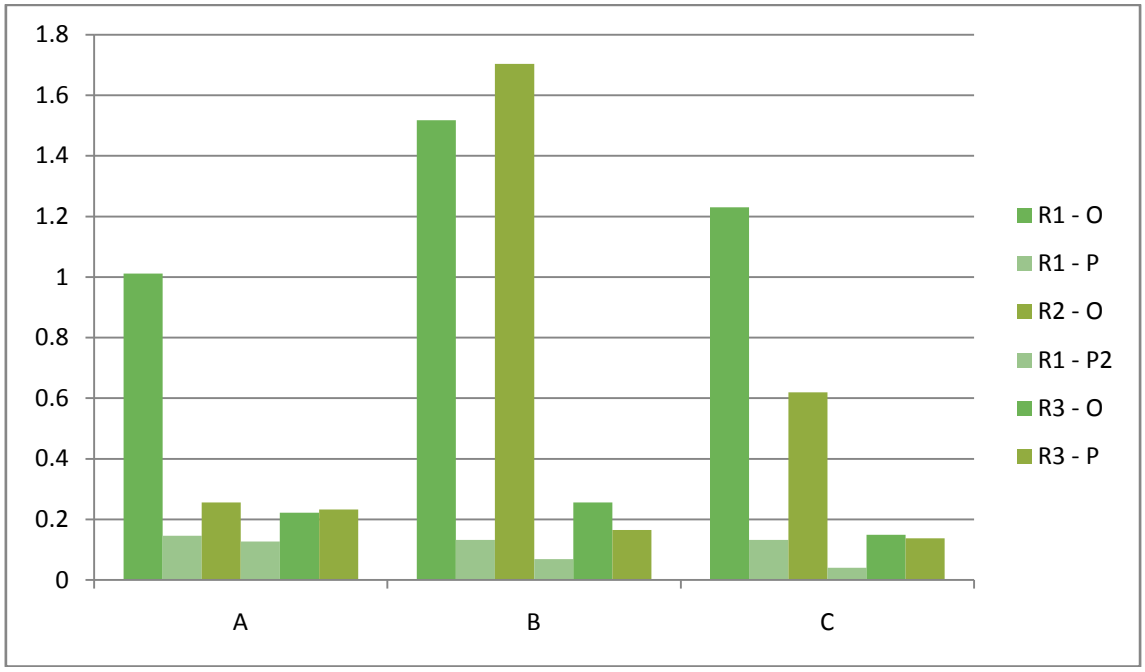

Fig. 7. Oboist's average cortisol readings for three moments (A, B, C) in three recitals, where "A" is just before entering the stage; "B" is just finishing performance; and "C" is 30 minutes after performance. "R1" is Recital 1; "O" is oboist; "P" is public. In each case ("B" moment), the public is much less stressed than the performer, even in maximum stress.

Does practice make perfect?

"I played it perfectly at home." Most teachers have heard this remark from the majority of their pupils at one time or another. Many books have been written on practising. Mostly, the subject is conveyed through oral tradition, from teacher to pupil. Harald Jørgensen's ground-breaking research on practising, which was presented at the first International Conference of Research on Instrumental Practice (Oslo, August 1996), confirmed that while practice may not make perfect if the right moves are not done "Practice makes Permanent." (Jørgensen, 1997) He characterises Practising as "Self-Learning" with four essential steps: (Jørgensen, 2004)

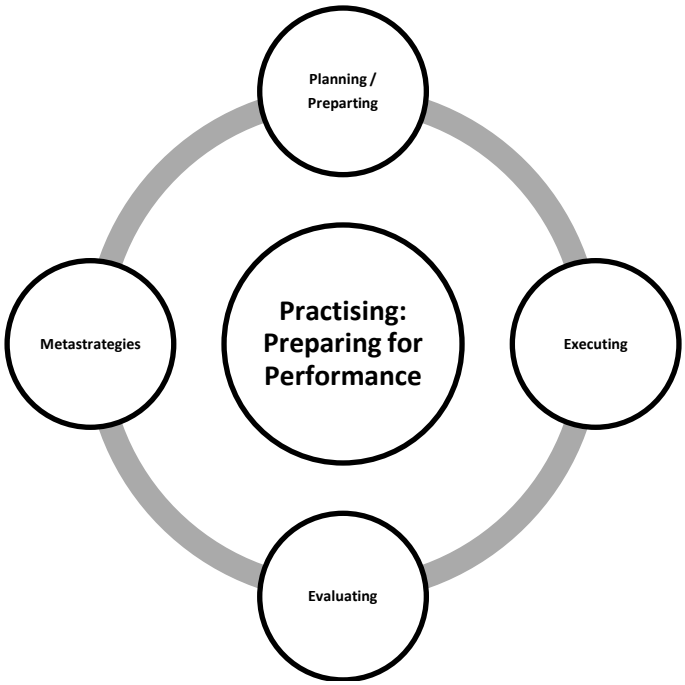

Fig. 8. Four essential steps to successful practicing for performance by H. Jørgensen.

Step no. 1. Planning and Preparation Strategies

- Selection of activities to be done. "deliberate practice" or "goal oriented practice;
- Organisation of activities to be done;
- Establishment of the goals and objectives of the practice;
- Management of time.

Step no. 2. Strategies for Execution

- Short rehearsals;
- Long rehearsals;
- Preparing for Performance.

Step no. 3. Strategies for Self-Assessment

- Evaluation of the process of practising;
- Evaluation of the product of practising.

Step no. 4. Meta Strategies

- Knowledge of the strategies to be used;
- Control of the strategies (in order to control the results of performance).

Jørgensen rightfully places the role of improvement on the individual, requiring each person not only to play and prepare the performance (or practice) but afterwards to evaluate and develop meta-strategies for betterment. By asking important questions in the evaluation process – such as: "What did I like about my performance?" or "What could have been better?" or "How did I feel when I played this passage?" – self-awareness and the development of meta-strategies become invaluable tools for the next cycle of Planning and Preparation.

A pivotal study is found in *Practicing Perfection. Memory and Piano Performance.* (Chaffin *et al,* 2002) The objective was to study the memorisation processes involved in the learning of the third movement of J. S. Bach's *Italian Concerto* by Rumanian pianist, Gabriela Imreh. Through videotaping and journal-keeping, six learning stages were identified:

- Overview, global analysis;
- Section by section study;
- "Grey" stage where the work is not quite memorised;
- Putting all the pieces together and stitching it up;
- Perfecting, 1st time, 2nd time;
- Maintaining.

Gabriela commented after the study was completed:

> *I do not think our research has changed my playing, but knowing myself better does help. Perhaps it has made me more efficient in practice and more focused. Probably the biggest thing I have learned is that memory is not voodoo. It give me great confidence to know that there is a scientific basis for what I do It has helped me develop better strategies and memorize faster….I have also developed better ways to test memory.* (Chaffin *et al,* 2002: 262)

Technological tools to enhance practice

With the easy accessibility of cellular phones and tablet computers, it is very easy to videotape ourselves or have our pupils do this on a regular basis to test their progress. One study definitely showed the advantages of these tools when a group of pianos students were asked to practice normally and the other group using videotaping as an integral part of their study. The latter group made much more progress. (Viegas, 2012) And it's fun!

Another tool being used in the Optimal Health Class by Dr. Kathleen Riley at the Cincinnati Institute for Music is InnerBalance™ (HeartMath) application for tablets and other mobile devices (Fig. 9). It is based on *em Wave* technology and is designed to reduce the negative impact of stress, to improve wellness "through training, education and self-monitoring. It helps you change your reaction to stress, gain insights in your shifting moods and create a more positive outlook on life, while tracking your progress, journaling your accomplishments and sharing it with others."[1] I am reminded of a Masters' study by Katerina Antoniou, supervised by Malcolm Troup at City University in London, which used bio-feedback to study the effects of Carola's one minute "Grindea Technique" that she taught to pupils before entering the stage.

Fig. 9. InnerBalance™ application on mobile phone.

Webinars are a wonderful way to do continuing education for piano teachers. You do not have to live nearby in order to benefit from them, merely have access to an internet

connection and you can connect to any webinar in the world. One very successful one is presented regularly by Prof. Fred Karpoff of Syracuse University with his 3-D method of *Entrada Technique* (https://en.wikipedia.org/wiki/Fred_Karpoff and https://entradapiano.com).

There is no end to discoveries using New Technologies in teaching, simulating, or stimulating performance. What has been presented here is only the tip of the technological iceberg. From time to time, ISSTIP will feature new usage and technologies in Musicians' Health and Performing Arts Medicine.

Portions of this article appeared in *Piano Journal,* Issue 104 and *Frontiers in Psychology* and are used with the kind permission of Murray McLachlan and Aaron Williamon. The photographs and figures are also used with permission with the exception of the first photograph whose copyright has been unable to verify.

Nancy Lee Harper is retired Professor of Piano and Pedagogy from the Universidade de Aveiro, Portugal. As a pianist, she has performed on 4 continents and in 25 countries. She has given masterclasses, lecture-recitals, and concerts in many prestigious institutions, such as the Juilliard School, Eastman School of Music, Liszt University, the Norwegian State Academy, the China Conservatory, Bangalore School of Music, amongst others. She has recorded 4 CDs for the Numérica label (also on iTunes) and others. She is author of many books and over 70 articles in 6 languages. She is on the board of four international scientific journals in England, Portugal, and Brazil, and sometimes reviews for *Clavier Companion.*

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Body Mapping: An Approach for Teaching Tension-Free Breathing in Singing

by Melissa Malde, DMA

Abstract: *Body map* is a scientific term that denotes one's cognitive self-representation of one's own body. It is the conception of how one is built and how one functions. A person's movement is governed by his/her body map. If the body map is both adequate and accurate, movement is healthy and efficient. If the body map is inaccurate, movement is impaired. *Body Mapping* is the process of identifying *mismappings* (misconceptions in the body map) and correcting them. Body Mapping promotes teaching that is based on anatomical and physiological fact. In this article, the discipline of Body Mapping is described in the context of breathing for singing. Since the anatomical facts of inhalation are the same for all people, this discussion may also benefit players of brass and woodwind instruments, as well as collaborative pianists who work with singers. Information will be provided on how musicians can discover their current breathing map, correct it, refine it, embody the corrected map and maintain it. Breathing always involves muscular work, but it can be free of tension (excessive or unnecessary work). Even those who resist a scientific approach to teaching voice can embrace Body Mapping as an effective path to beautiful, expressive and tension-free movement in singing. Though an accurate and adequate description of the structures and movements of breathing initially takes longer than using shortcuts and metaphorical imagery, it ultimately saves countless hours of frustration. When we acquire an adequate and accurate body map, the miraculous wisdom of the body has the potential to sustain and guide us through a long and healthy singing career.

Introduction

Body map is a scientific term that denotes our cognitive self-representation of our own body. It is the conception of how we are built and we function. Our movement is governed by our body map. If the body map is both adequate and accurate, movement is healthy and efficient. If the body map is inaccurate, movement is impaired. *Body Mapping* is the process of identifying *mismappings* (misconceptions in the body map) and correcting them. The discipline of Body Mapping was developed by Bill and Barbara Conable and is now taught through licensed Andover Educators. Andover Educators work with people in all walks of life, but specialize in working with musicians. Because musicians tend to be intense, result-oriented perfectionists and because they use repetitive movements, they are particularly prone to injury. Even the slightest inaccuracy or inadequacy in their body maps can lead to career-ending impairment.

Teaching *Body Mapping* for singers – General Concepts

Consider the following common shortcuts used to teach breathing for singing:

1. Encouraging a student to "breathe with her diaphragm" while putting a hand flat on the upper abdomen;
2. Advising a student to "drink in the breath";
3. Instructing a student to breathe by "filling an inner tube around his middle".

All three of these practices spread misinformation by promoting inexact or erroneous ideas. At best, these strategies cause inefficiency and extra work. At worst, they cause tension and even injury.

Body Mapping promotes teaching that is based on anatomical and physiological fact. Though an accurate and adequate description of the structures and movements of breathing may seem unduly time-consuming in the initial stages of instruction, it potentially saves countless hours of frustration over the long term. In this article, the discipline of

Body Mapping will be described in the context of breathing for singing. Since the anatomical facts of inhalation are the same for all people, this discussion may also benefit players of brass and woodwind instruments, as well as collaborative pianists who work with singers. Information will be provided on how musicians can discover their current breathing map, correct it, refine it, embody the corrected map and maintain it. Breathing always involves muscular work but it can be free of tension (excessive or unnecessary work). Even those who resist a scientific approach to teaching voice can embrace Body Mapping as an effective path to beautiful, tension-free movement.

When we are born, our body map is perfect but not detailed. As we develop, we figure out how to roll over, sit, crawl, reach and hold objects, balance on our feet, walk and make the sounds of speech. Anyone who has watched a baby learn to crawl or to walk has seen the development of an adequate and accurate body map in action. Unfortunately, as we are socialized in school and play, we start collecting misinformation. We sit awkwardly at a desk that is too small or too tall for us. We become self-conscious about our bodies and start sucking in our stomachs, diminishing our height, and trying to make our chests broad or narrow, depending on our particular insecurities. We also start emulating the adults around us, many of whom move according to their own inaccurate body maps.

As we start singing or playing musical instruments, we bring our body maps with us. "Natural" musicians are those whose body maps are innately adequate and accurate so that their bodies naturally respond to their artistic impulses with beautiful fluidity. The rest of us bring our faulty body maps to our instruments or our singing. Sometimes we are lucky and we are matched with a teacher who can spot our mismappings and help us to correct them. Many times, though, the teacher tries in vain to correct inefficient movement. A teacher may be able to identify a problem but not its source, so poor movement continues uncorrected despite repeated instructions.

Well-meaning teachers sometimes give us instructions that are open to misinterpretation, leading to new "mismappings". Sometimes teachers will pass along information they received from their own teachers without questioning its accuracy. These scenarios yield sub-optimal results that are frustrating for teacher and student alike. Body Mapping can help avoid this frustration by giving teachers and students a universal language based on anatomical fact.

A body map need not be conscious in order to be adequate and accurate. Ask natural musicians how they do what they do and they may look puzzled at first, then start explaining how things function in gestures that reflect an excellent body map. When there are technical barriers or problems, however, the body map must be brought into the conscious mind, analysed and corrected. Then the corrected map must be so embodied, so integrated, that it still guides excellent movement when relegated to peripheral awareness. If the problem that led to the remapping continues to surface, the corrected map is not yet firmly embodied.

Body Mapping teachers will not teach technique. Rather, they will help students apply whatever technique they choose with somatic integrity. So, for instance, a Body Mapping teacher will not tell a student how to breathe. He or she will help the student discover and correct misconceptions about the structures and movements of breathing so that, whatever breathing technique the singer uses, the movements of breathing will be free, efficient and healthy. Body Mapping is an excellent tool for a teacher to use in combination with technical knowledge. That is, the teacher may have a very clear technique for exhalation and support. As long as that technique is compatible with how the body is designed, it can be communicated most effectively through Body Mapping.

A singer is his own instrument, so one might expect that nothing could be more natural than singing. However, most of the singing instrument is deep within the body and cannot be seen or touched. Because of this, many teachers of singing have developed a language of imagery and metaphors. How many singers have been told to loft a parachute in the back of their throat, to create enough space in the mouth for a hard-boiled egg, to inhale the scent of a rose or to take a surprise breath in an effort to raise the soft palate? All four of these images create tension in inhalation, resonance and the articulation of language. If singers instead were taught to map the small muscles that attach to the soft palate from above and use those muscles to lift and stretch it, they could begin to move the soft palate independently without resorting to images that interfere with other processes.

The Role of Kinaesthesia

An essential tool for mapping movements like raising the soft palate is kinaesthesia. We are taught in school that there are five senses, but this conception of the modalities of perception is woefully inadequate. We have many more senses than sight, smell, taste, hearing and touch. Orientation or the sense of direction is one. Kinaesthesia, or the sense of movement, is another. This sense is absolutely critical for singers because we cannot see, smell, taste or touch most of our instrument, let alone hear it accurately. How then do we get the information necessary to regulate the movements of singing? We use the kinaesthetic sense, gathering information on movement from the sensory receptors embedded in our muscles.

If you put a hand where you can't see it, behind your back for instance, and wiggle your fingers, the information you get about that movement will be from your kinaesthetic sense. You know exactly when the movement starts and stops, its direction and extent. Yet you are not touching your fingers with your other hand to get this information, nor are you seeing, smelling, hearing or tasting them. You are using your sensory receptors to gather the information about movement.

We also cannot see, touch, hear, smell or taste the main muscle of breathing, the diaphragm, because it is deep inside the torso. The diaphragm has no sensory receptors that carry information back to the brain. However, we can still use our kinaesthetic sense to gather information about its movement by sensing its effects on the surrounding structures.

To start the Body Mapping process, the first step is to identify your current body map. To understand your body map of your breathing system, describe, demonstrate or draw the structure, size and function of the following body parts involved in breathing:

- Diaphragm;
- Ribs;
- Throat;
- Trachea;
- Lungs;
- Abdominal muscles;
- Pelvic floor;
- Spine.

As you explore your body map, ask yourself questions:

1. What is this structure like?
2. What is it made of?
3. How big is it?
4. Where does it connect to the rest of the body?
5. Is it capable of work?
6. If so, how does it move when it works?
7. What is the effect of that work?
8. How does it work with other structures to bring the breath into the body?

As you carry out this mapping exercise, feel free to explore using touch, movement and a mirror to bring your map into your conscious mind. However, do not consult resources outside your mind and body. You are trying to discover your current map of your breathing.

Once you have answered all the above questions for each of the structures mentioned, you can check your map for adequacy and accuracy. For this stage, it would be helpful to consult pictures of the structures concerned. To this end, a list of print and internet sources containing professional anatomical drawings is provided at the end of this article. However, drawings need not be artistic in order to show a correct map. The figures below, drawn by the author, are an example of amateurish artistry that nevertheless conveys a correct map.

The primary breathing muscle, the diaphragm, is a dome-shaped muscle that divides the thoracic (chest) cavity from the abdominal cavity. It attaches to the lower edge of the ribs all the way around and to the front of the lumbar vertebrae (the part of the spine in the abdominal region).

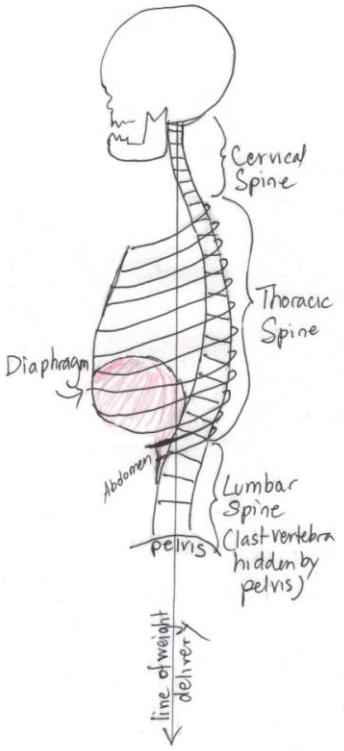

Figure 1. ***The Diaphragm in Context.***

It domes up inside the ribs so that the bottom of the heart rests on its centre. On both sides of the heart, it attaches to the bottom of the lungs through a flexible membrane.

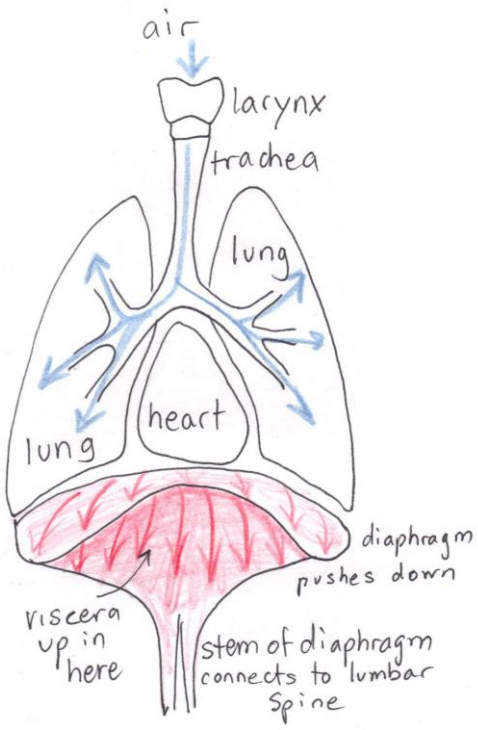

Figure 2. ***The Structures of Respiration.***

When it contracts, it gets flatter and wider and this action has four effects: it pushes down on the viscera (the contents of the abdominal cavity), it pushes out on the lower ribs, it pulls up on the lumbar vertebrae and it pulls down on the lungs.

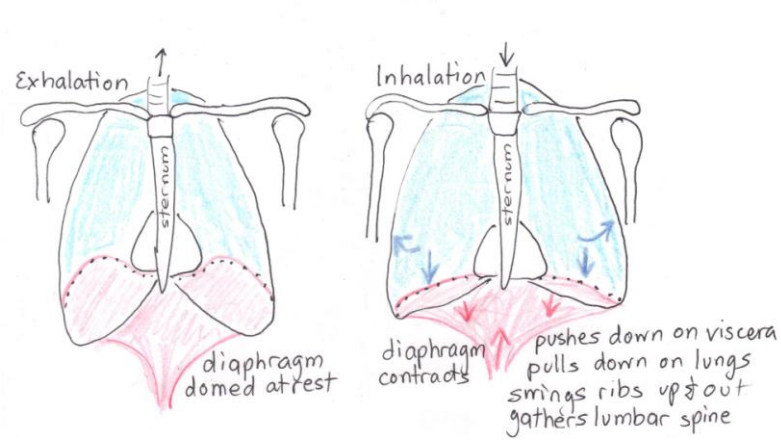

Figure 3. ***The Effects of the Contraction of the Diaphragm.***

Since the ribs slope down from the spine in the thoracic region, as they are pushed out by the diaphragm, they also rise, pivoting at their joints with the breast bone and the spine. This action is aided by other muscles that attach to the ribs that we will simply refer to collectively as rib lifters. During inhalation the ribs swing up and out widening the thoracic cavity. They also get closer together. The ribs curve back from the spine so as they swing up and out, the rib cage as a whole gets deeper from front to back as the curve changes orientation. The lungs are not muscles and cannot work to bring air into the body. They are organs made of spongy tissue and they conform to the shape of the surrounding structures: the heart, diaphragm and ribs. Thus, through the actions of the diaphragm and the rib lifters, the entire thoracic cavity becomes taller, wider and deeper and the lungs expand to fill the space. As their volume increases, the air pressure in the lungs decreases and air rushes in through the nose or mouth to equalize the pressure. The throat muscles release to create an unrestricted passage for the air. The trachea (windpipe) is mostly made of cartilage and cannot do any work to bring the air into the body. It is approximately seven inches long and branches into the lungs above the heart. The air is drawn into the middle of the lungs and expands in all directions. The abdominal muscles and pelvic floor release enough to allow themselves to be stretched by the displaced viscera. The only muscular work during inhalation is in the diaphragm and rib lifters. All other structures mentioned above release during inhalation.

The spine also moves during inhalation. The diaphragm attaches to the lumbar vertebrae, the ribs attach to the vertebrae in the thoracic region and some of the rib movers attach to the vertebrae in the cervical (neck) region. As the diaphragm contracts and the ribs move closer together, the spine gathers together, slightly compressing the discs of cartilage that cushion the vertebrae. Therefore, as the lungs are expanding, the spine is gathering slightly along its entire length.

Now we will return to the three instructional shortcuts enumerated at the beginning of this article and compare the movements they encourage with the proper anatomy of breathing.

- Encouraging a student to "breathe with her diaphragm" while putting a hand flat on the upper abdomen.

By placing a hand flat on the front of the body just below the breast bone as they talk about the diaphragm, teachers communicate to students that the diaphragm is a flat muscle in front of the stomach. In fact, these are abdominal muscles. When these muscles contract they become shorter and thicker, pushing in on the viscera. As the viscera are pushed up against the diaphragm, air is pushed out of the body. A teacher may combine the gesture with the instruction that this part of the body is supposed to go out during inhalation. It is possible to distend the abdominal muscles, pushing them out with muscular work that has nothing to do with inhalation. This is an excellent example of how a simple, well-meant gesture can convey information that is seriously misleading, leading to inefficient movement and confusion.

- Advising a student to "drink in the breath".

When we drink, we use the tongue and the throat muscles to push liquids into the oesophagus, the muscular tube that pushes the liquid down to the stomach. Air is not a

liquid and does not travel through the oesophagus to the stomach. It is a gas and travels through the trachea to the lungs. The lungs are much higher than the stomach so the path of air is shorter than the path of a liquid. The trachea is made of cartilage, not muscle like the oesophagus, so it cannot do any work to draw the breath in. Similarly, the only role of the throat and tongue muscles in breathing is to release completely so that they provide a clear passage for air that is drawn into the vacuum of the lungs. Encouraging a student to use the tongue and throat to push air down is worse than just causing excess work. It often leads to tongue tension, throat tension and a noisy inhalation. Also, the student may think that the air needs to go into the oesophagus, which is behind the trachea, and travel all the way to the stomach. If you take a sip of water with your hand resting lightly on your Adam's apple (the larynx), you will feel it rise as you swallow. You may also sense that the larynx is closed off during swallowing to prevent food and liquid from entering the trachea. On the other hand, when we breathe for singing, the larynx tends to go a little lower than its resting position and opens wide to allow air to pass through unimpeded.

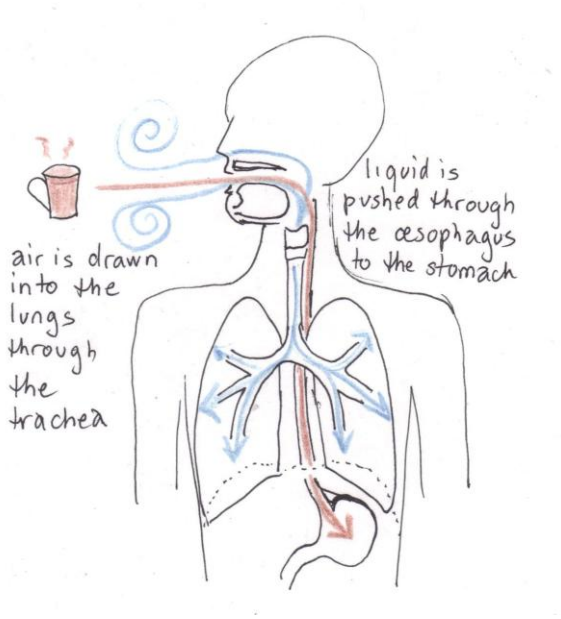

Figure 4. ***Pathways for Air and Liquid.***

Most teachers who use this image are not intending students to swallow air. However, the act of swallowing is so antithetical to breathing that this image can be very damaging to literal-minded students.

- Instructing your student "fill an inner tube around your middle with air".

There are multiple problems with this common image. Similarly to the drinking image, it implies that the breath travels much lower than it actually does. The lungs reach only slightly lower than the bottom of the heart. More importantly, it implies that there is a pumping mechanism that forces air into the abdomen under pressure. It also implies that every breath a student takes must fill the space of an inner tube. Often a very small breath will be optimal for a short phrase. Stuffing more breath into the body than is needed for the phrase makes the regulation of the exhalation much more difficult. The student who

takes this image to heart will try to invent some way to pump a fixed amount of air down to the belly – an impossible task.

These shortcuts run the risk of confusing the singer, causing excess work and tension in the inhalation. This is not to say all imagery is bad. If it does not defy the correct process and the student generates the image, it is perfectly appropriate to use an image that the student invents. For instance, as a student is mapping the movement of the ribs on inhalation, he may say "my ribs are swinging up like the handles of a pail." That image is close enough to the truth that it will not hurt the student and that visualization may help him map the movement more quickly. However, if the teacher uses that image with the next student, it may cause confusion.

For teachers who are used to using imagery, it seems impossible to teach without it. However, it does not take long to see that mapping the structures involved leads to clear, long lasting results. Instead of instructing with imagery, teachers can ask their students questions about their breathing, paying attention to the gestures students use as they describe their process. Students can also be instructed to draw the structures of breathing. No matter how poor their artistic ability, their map will be clear. Through these methods, teachers can discover specific inaccuracies in each student's body map. Then they can correct mismappings using anatomy drawings, gestures and descriptions. The best teachers also model good movement. If we teach one thing and model another, students get confused and frustrated. Mapping the structures and movements of breathing adequately and accurately may take several lessons but the benefits will last a lifetime.

We have now taken the first two steps on the path to an adequate, accurate map of inhalation: becoming familiar with your map and checking it for accuracy. When you find mismappings, you correct them by studying anatomical drawings, working with a Body Mapping teacher, asking yourself questions and using your kinaesthetic sense to understand the structure, function and size of the structures used in singing. The next step is to coordinate that knowledge with movement. As we learn the structure and function of the diaphragm in anatomical drawings, we need to apply that knowledge to the movements in the body. We may model the diaphragm with our hands, rest our hands on the belly and the ribs to feel the effects of the diaphragm's contraction, or simply visualize the diaphragm working up inside the ribs. The final step to permanent mapping is to embody the knowledge thoroughly. Only when that intellectual knowledge is completely natural and integrated can you count on the structure to move efficiently and without tension. The best tool to cultivate this is *inclusive awareness*.

Inclusive awareness is a skill, not an inborn talent, and must be practiced to become sufficient to our needs. It is the process of awakening the kinaesthetic sense in our entire body and bringing the constituent parts of the body into a global awareness that includes all parts and excludes none. This is particularly useful when you are revising your map of a structure. If you were taught that the diaphragm is a flat muscle in front of your stomach, you may have to consciously picture its size, shape, and functions many, many times before your mind has remapped it and your body moves according to the new map. If you try to map it in isolation, it will never be adequate. In the best inclusive awareness practice, you are not concentrating on your map of your diaphragm. Rather, you are putting your new knowledge of the diaphragm in the context of the rest of your body, noticing its attachments to the ribs, spine, heart, lungs and the effects of its movements on these structures. Instead of sequencing your awareness of these structures ("first I'll pay attention to my ribs, then my spine, then my diaphragm") you are layering or adding awareness ("my spine is in my awareness as I add the awareness of the ribs and how they attach to the spine, then I retain the awareness of my thoracic skeleton as I cultivate the awareness of

the diaphragm and how it connects to the bones"). This might seem like a small difference but it is significant. If you are concentrating or scanning, you are likely to miss tension in a part that is not in your awareness. If you cultivate global awareness, you can immediately sense when a movement or process is not efficient, bring it into focus in the context of the rest of the body and allow the body's wisdom to correct it.

With daily practice, you will be able to keep your whole body in your awareness. This is an essential tool for effective technical practice. Singers who start their practice with five minutes of inclusive awareness have their entire body at their disposal for the music. Without taking the time to awaken their kinaesthetic sense, they are much more likely to revert to bad habits, concentrate on isolated structures or ignore their bodies altogether.

Once the map is adequate and accurate, inclusive awareness allows students to notice the effects of the tensions of the day and *release* them. Releasing tension is distinct from relaxing. A tense student, when told to relax, will likely develop more tension. If the student could relax, she would. Being told to relax without specific guidance will just frustrate her further. Besides, most music that classical musicians play is not intended to be relaxing. Even at its mildest, it has emotional intensity and requires appropriate work. Therefore, overall relaxation is not the goal.

Instead we can train ourselves and our students to identify excess work and release tension. If we sense tension in our shoulders, we can look at pictures of the neck muscles until we have identified the muscles that connect the arm structure to the neck. We can visualize the fibres of those muscles and instruct them to release and soften along their entire length. Practicing this method, we can learn to eradicate excess work and tension. This is preferable to stretching, which involves unnecessary work in other structures and may injure the muscles that are really tight. Once we learn to release specific muscles, we combine that with inclusive awareness so that we immediately notice an overactive muscle and take steps to release it before it causes problems.

Along with the idea of releasing specific muscles instead of relaxing general areas comes the idea of appropriate work. There is muscle work in any movement. Singers move all the time, even if the movement is small and deep inside us. Without movement, there would not be sound. Our task is to figure out how much work is needed and where that work is done most efficiently. This will keep us from unnecessarily recruiting muscles to "help" with movement.

Here are two examples of this in the breathing process. 1) Muscles at the back of the neck engage during inhalation, causing the head to jerk back. This habit usually comes from a mismapping that includes muscles at the back of the neck as breathing muscles. Standing students with this habit against a wall to make them aware of the problem will result in postural tension. Instructing them to release those muscles may work momentarily but if they have mapped them as breathing muscles, it will not be a long-term fix. The only permanent solution is to map the work of breathing in the diaphragm and the rib movers, and map the neck muscles as head and shoulder movers not responsible for inhalation. 2) The throat and the muscles at the base of the tongue contract during inhalation, making a gasping sound. Singers are often instructed to keep an open throat. This is a good goal. Unfortunately, many singers try to open their throats with the muscles at the back of the throat and the muscles at the base of the tongue that form the front of the throat. Since muscles contract when they work, using these muscles in an attempt to open the throat actually results in the opposite action. When the throat is constricted, the inhalation causes a gasping sound. This can also occur if the student is trying to use the throat and tongue muscles to drink in the breath or to pump air down into an imaginary inner tube. The only

way to use these muscles to open the throat is to instruct them to release. Only do the work you need to do. Put the work where it belongs.

Teachers without an extensive knowledge of anatomy can still use the process of Body Mapping. Much of it is just a matter of paying attention to the words one chooses. Instead of "open your throat" use "release your throat." Instead of breathing imagery, take the time to map the diaphragm yourself and demonstrate your correct map to your student.

Many believe that learning the processes of singing based on anatomy is too complicated, too scientific and leads to mechanical performances. The opposite is true. Trying to breathe according to images that are misleading is much more complicated than breathing correctly. You can explain the process of breathing with pictures and gestures without any scientific terms. As your student learns to coordinate this knowledge with movement, it may be mechanical at first. However, as the information becomes embodied and the map is corrected, movement will become more and more liberated. Correcting and refining the body map allows singers to sing with an instrument that responds intuitively and consistently to their artistic impulses. It takes the mystery and insecurity out of the mechanical processes so that singers can wallow in the mystery and insecurity of artistic choices. With an adequate and accurate body map, the miraculous wisdom of the body has the potential to sustain and guide us through a long and healthy singing career.

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Mezzo-soprano **Melissa Malde** has performed with organizations throughout the United States and abroad, including the Moscow Chamber Orchestra, the Prague Radio Orchestra, Vancouver Opera, the Bangor Symphony, Kentucky Opera, the Cheyenne Symphony and the Colorado Music Festival. She holds degrees from Oberlin, Northwestern, University of Cincinnati, and the Hochschule für Musik in Munich. Dr. Malde serves on the faculty of the University of Northern Colorado and is licensed as an Andover Educator to teach Body Mapping. She is a co-author of *What Every Singer Needs to Know about the Body* and presents numerous workshops in the US and Canada on that subject.

Singers Performing Confidence Group

2015 BIMM [British and Irish Modern Music Institute] London

By Andy Evans and Valentina Passoni

Introduction

Rock academies are flourishing in recent years, and a leading exponent of rock education is BIMM Music Schools [British and Irish Modern Music Institute], which has academies in London, Manchester, Brighton, Bristol, Dublin and Berlin. Student numbers are expanding to over 1,000 in some of these locations. Teaching popular music is expensive and requires a lot of stage and computing equipment, and for purely practical reasons teaching is done primarily in groups. Altogether there are large groups, seminars, workshops, projects and performance ensembles, and some individual tutorials are available for further support. Group classes are mostly instrument specific, so singers have to perform in front of fellow singers and so forth. Students of all instruments come together weekly for live performance workshops, known as LPWs, where they perform to an audience of students and tutors. There is continuous assessment of students via such classes and workshops, and so students are aware that their performances are being judged either openly through feedback or in the heads of those listening.

Feeling that one is being evaluated by audiences and peers is one of the unavoidable issues of performing, and we have ample evidence that this is a main cause of performance anxiety in both students and professionals. Some cope better than others, and it usually helps to be extraverted and socially bold. This is hard on those more shy and introverted. They can find performing more stressful and within a student group they may become the "quiet" ones or, at times, class outsiders, who feel social anxiety on top of the performance anxiety. BIMM has class-leading state of the art student services, and students have access to a performance psychologist, performance medic and ergonomics specialist besides the usual student counsellors. So while backup services are as good as possible, it is also productive to look at how groups might work in the best way possible for the more shy or introverted. Working with students in a group should also be cost-effective and avoid the additional pressure of one-to-one sessions.

The issues that need addressing with students are the following:

- While a majority have previous paid or unpaid performing experience, some students with ample talent have very limited performing experience. So they need a positive and stress-free accumulation of performances in front of others to become more settled.
- If students feel anxious about classes and workshops because they either feel they don't match up to their peers or because they haven't acquired the strength of character to be assertive within groups, they can cut classes. Not only does this avoid the steps necessary to improve, but also their absenteeism affects their grades and their progress. BIMM is well aware of this issue and the Student Services team meets regularly with students who are struggling with their attendance in a continuous effort to resolve this.

Given the above, one initiative that seemed to promise good results was to invite the most anxious students and those with limited performing experience to join a Performing Confidence group where they could acquire and develop confidence in performing to peers. Within such a group the "outsiders" in the usual classes would become the "insiders" – it would be a group of more sensitive and introverted students, who should in theory open up and shine when not being overpowered by more dominating and extravert classmates. They would be referred by tutors, the Student Services team or by self-referral.

Setup and operation of the group

The pilot group was set up in February 2015 by Andy Evans, performance psychologist at BIMM, and Valentina Passoni, vocal tutor at BIMM. It was co-conceived and managed by Claire Jarman, Head of Student Services. It met four times and had 7 participants, all female singers.

The group is intended to perform two functions:

1. Act as a kind of shyness group. These groups exist and are used for both shyness and public speaking, so there are already some established procedures regarding warm-ups, content and group dynamics.
2. Act as a vocal rehearsal group where singers bring in songs to sing and can go through them several times under the guidance of a vocal tutor.

In view of these functions, the group is set up with both a psychologist/coach and a vocal tutor in the first instance. It should be possible, once a vocal tutor was trained in how to handle a group of this kind, for a vocal tutor to run the group. What training and experience would enable this remains to be established.

The group starts with some basic group principles:

- Everyone gets respect. No bullying or humiliation;
- You may be outsiders in other groups but you are the insiders here;
- We are all equal, and sit in a circle;
- We agree to support each other in every way;
- We agree to not tell tales outside the group;
- The group can experiment, improvise and make suggestions;
- What you say and do will help us run future groups;
- It's OK to make mistakes and try again and again;
- You don't have to be perfect – you just need to sing!

The program consisted of these steps:

1. Introductions and check-ins. One member starts, checks in and then welcomes a second who takes over and so on until all have been welcomed.
2. General discussions of topics arising. This establishes group identity and allows individuals to open up and make points in a safe atmosphere. The group leaders can also take this opportunity to suggest strategies and insights.
3. Warm-ups. These are physical and very active and done collectively. They serve as a dis-inhibition exercise and help group cohesion as well, preparing for singing.
4. Singing, where students are given feedback by the vocal coach vocal coach, performance psychologist, and other group members, focusing on positive aspects of their performance and on what to work towards at home
5. Warm-down discussion and goodbyes.

Group sessions (6pm – 8.30pm cut-off)
Week 1

Quite a nervous start. Atmosphere was rather stiff and a bit cold. General talk was about nervousness. A lot of individual talking and then warm-up exercises led by Valentina. Exercises were maybe a bit over-long but loosened everyone up. Nobody got to sing at this stage. Nevertheless, it was a foundation for progress and the group started to develop an identity and sense of purpose. Group lasted just under 2 hours.

Week 2

A much better group. Singers had prepared at least one song. Talk was more natural from the start. Personalities got on well. The group did warm-up exercises which were fun and enjoyable. We didn't sing until 7.40, but then everyone clicked and we all sang. The students asked for the main lights to be turned off, and this was a good atmosphere with a glow from two small lights. Singers sang from the small stage with backing tracks, and one used a guitar which she said helped with nerves. Songs were both covers and originals. Some had nervy starts but when they repeated the songs they were less pitchy and progressively gained confidence. There was a real sense of achievement. Group finished very positively.

Week 3

By now students were clearly improving and were signing loudly and confidently. They were able to repeat the same song a number of times gaining in confidence with each repeat, and getting positive feedback from the vocal tutor and other group members. The atmosphere was particularly friendly, relaxed and even jokey. All the group members took part as backing vocalists. The group carried on for 2.5 hours and were reluctant to stop.

Week 4

By week 4 everyone was positive and relaxed, so after fairly brief check-ins and a basic warm-up everyone wanted to sing as soon as possible. They also had brought in two or three songs each and wanted to try them all. There was a clear desire from all members to want to sing as much as possible, which was a conspicuous step forward. Again, all members took part in the backing vocals and each lead singer was now invited to take charge of the rehearsing and instruct the BVs in how and where to sing. Confidence and assertiveness were clearly more noticeable. Singers at this point were experimenting with singing in different ways – moving/acting more, singing with/without the mic on a stand. The group was again very reluctant to stop after 2.5hrs, and they all asked whether the group could continue in future weeks.

Discussion

Shy people hate being pushed or pressured, they need to feel that they control their own degree of socialising and the performances they give. They are well aware of their shyness, and are much more effective when they want to resolve it themselves and are given the chance by others to do so. Shy/nervous students don't want to be labelled as

"difficult" by tutors. They are just being themselves. What can happen in practice is that tutors, for understandable reasons:

- Expect singers to be able to perform on cue, so if they can't will move on to a student who can.
- Try to encourage singers with various degrees of success or lack of it. Tutors vary noticeably in their ability to accommodate nervous singers judging from students' own self reporting. This may be an area where some staff training could be useful, since special skills in handling nervous performers can't be taken for granted.

In a sensitive low-expectation group with a feeling of space it becomes much easier for a student to control his/her own degree of confidence in coming forward. This proactive move on the part of the student is absolutely essential in developing the ability to volunteer themselves to sing in class or LPW, and is one of the major aims of the group.

Results and feedback

The group achieved what it set out to do. Feedback from members went as follows:

A: I feel that here I'm not judged. I'm not pushed.

B: I can get more attention in this group. In class people don't call me up because people think I'm shy. Everyone gets to sing here – this doesn't happen in class.

C: Here I'm not rushed. I can make mistakes, I can do it again. I can't do this in class. I can sing when I'm ready to go – I can decide.

D: Here we don't have the "standard chat" like "what genre is that?". I can say "I want it like this". You can be yourself.

E: I feel more relaxed here and this helped me a lot. Last week I surprised my class and teacher. Something happened and it was from what we did here. I'm not fully there yet, but I'm on my way.

F: This group has had an effect. People said to me "I've never heard you sing like that". I actually get to sing here – really sing. Others dominate in class or LPW – it can be just five who take up all the attention.

G: Yes – that's the same for me. In my last LPW assessment I felt I was doing something good. I had new thoughts. I'm thinking more about acting now.

All the singers wanted this particular group to go on.

Recommendations for future groups

Judging from these four sessions, the group worked for all participants. They all made progress and were really knitting together and enjoying singing by week four. The

nervous atmosphere of week 1 had become fun and jokey by week 4 with a lot of positive mutual support. There were no "outsiders" – everyone talked and sang.

So the recommendation is for this group and these kinds of groups to continue. The leaders will gain experience and be able to form a working blueprint for running a group of this kind which other BIMM colleges could then use themselves with their own staff. For now the group needs two leaders, but this might theoretically drop to one at a point where the operation of the group is more established.

In terms of cost-effectiveness, the group could include up to eight members on an invited basis, and the core participants should be asked to attend all sessions. That gives a ratio of four students to one tutor, as opposed to one-to-one for individual sessions. So even financially this looks worth doing, irrespective of the benefits of having added support from sympathetic fellow musicians in the group.

Following the first four sessions, the group was extended to another six sessions where additional singers joined a core of original members, who by then were actively helping the new members. As predicted, this showed further worthwhile gains in confidence, though not as dramatic as in the initial sessions. Our working assumption would be that six sessions per group would work well. This group has met with good reactions from tutors and staff alike so there is every reason it could become established within BIMM colleges, and BIMM Brighton and Manchester are already looking at this.

Judging from the feedback of students this group did what it set out to do – enable its participants to sing with confidence and go back into the class/LPW situation better able to cope. This should result in both better attendance and better marks, and would certainly improve the sense of wellbeing and confidence of the students concerned, which is a major and worthwhile goal.

In terms of cost-effectiveness, the group could include up to 8 members on an invited basis, and the core participants should be asked to attend all sessions. Over 4 sessions this means 16 staff hours for two leaders. Compared to individual counselling sessions for performance anxiety/shyness, 8 participants would get 8 hours of work each for the same staff rate as they would get 2 one-to-one sessions. So this looks like an effective use of resources. This group was not able to carry on for over 4 weeks, so we don't yet know how much better the students' confidence would be over 5 or 6 weeks. The next group is planned to run for 6 weeks with the motive to establish the most effective cut-off point for reaching a positive plateau.

Judging from the feedback of students this group did what it set out to do – enable its participants to sing with confidence and go back into the class/LPW situation better able to cope. This should result in both better attendance and better marks, and would certainly improve the sense of wellbeing and confidence of the students concerned, which is a major and worthwhile goal.

Special thanks to Claire Jarman, Head of Student Services, BIMM London, for helping to set up and manage this pilot group and enable it to take place.

Editor's Note: "The **BIMM Institute** is a group of six independent colleges with over 4,500 students that specialise in the provision of British and Irish Modern Music education in Brighton, Bristol, Dublin, Manchester Berlin and London. All Colleges focus on full-time Further and Higher Education courses in guitar, drums, bass, song-writing, vocals, music production, music business, event management, live sound & tour management and music teacher training. BIMM was founded in Brighton in 2001 as the **Brighton Institute of Modern Music**. BIMM Bristol opened in 2008. According to their website in 2010, BIMM Group acquired Tech Music School London (TMS) and in 2011 BIMM Dublin opened and in 2013 the group opened BIMM Manchester. In October 2014 the organisation was renamed the BIMM Institute, British and Irish Modern Music Institute. Tech Music School is now incorporated into BIMM London, based in Fulham." (https://en.wikipedia.org/wiki/British_and_Irish_Modern_Music_Institute, accessed on 12 May 2015).

Andy Evans (MBPsS, MA Performance Health, PCC) is a psychologist, musician, and author of *Secrets of Musical Confidence*. He has 27 years experience as a consultant for professional performers and runs regular lecture series and training workshops on issues such as performance anxiety, motivation, perfectionism, song writing, peak performance, burnout and practice strategies. Andy is a Certified Professional Co-Active Coach and sees a large number of leading performers in his private practice He also lectures and coaches at BIMM Popular Music Academy in London and other locations.

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Valentina Passoni (BMus) is an Italian session singer based in the UK. She graduated from BIMM London in Contemporary Music Performance and is also a qualified vocal technique teacher with diplomas in Contemporary Music Vocal Technique and Estill Voice International. She works as a lead singer in function bands and as a backing vocalist, sharing the stage with artists such as Wynton Marsalis and Phronesis and performing in venues such as the Royal Albert Hall, Barbican, Shepherd's Bush Empire and O2 Academy Islington. Valentina is a vocal technique and theory tutor in BIMM Manchester and London.

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Chopin, Arm-weight and Folk Influences

By Steve Rodman

Abstract: By the late 19th century into the 20th no pedagogical treatise would be complete without a section on arm weight. For writers such as Theodor Kullak (1818-1882), Tobias Matthay (1858-1945), József Gát (d. 1967) and Kendall Taylor (1905-1999), technique focused exclusively on variations of tone and intensity. This was quite logical over the course of the 19th century, touch weight increased by many factors, while keydip almost doubled. Before this period, as Hummel points out, there was no requirement for great force; in fact using other than solely finger force affected the tone in a deleterious way and needed to be avoided. This article aims to answer the question "Why then did Chopin, years earlier, and playing the lightest of piano actions, have recourse to this technique?"

Arm-weight in the Early Literature

Historically the discussion of arm-weight in the literature of the piano begins with some exercises on the influence of the arm in playing (see below) in 1855 by Adolph Kullak. Arm-weight in the later 19th-century literature exclusively addresses strength of tone. Here is Kullak in 1860:

> In considering the arm in its dynamic intensity, we arrive at the theory of arm-stroke proper. (Kullak, 1972:189)

This is quite understandable, since, as the century progressed, pianos got louder, action heavier and keydip deeper. Hummel makes clear that pounding on a piano in the 1820's just didn't make sense (or any difference). The heavy English pianos to which he alludes are nothing compared to what the following decades would bring. Writing in 1829, he makes one of the first references to arm-weight in the literature, but from an old-school perspective:

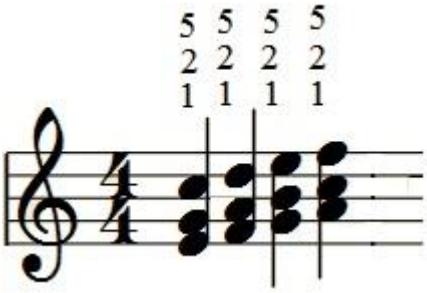
> Whoever is yet unaccustomed to these instruments [English pianos], should not, by any means allow himself to be disconcerted by the deep descent of the keys, nor by the heaviness of the touch; only let him not hurry himself in the time, and let him play all quick passages and runs with the usual lightness of finger; even passages which require to be executed with strength, must, as in the German instruments, be produced with the power of the fingers, and not by the weight of the arms; for as this mechanism is not capable of such numerous modifications, in force of tone, as ours we gain no louder sound by a heavy blow, than may produced by the natural strength and elasticity of the fingers.(Hummel, 1829: 454)

By the 1850's piano mechanisms had changed dramatically. Tone was now a far greater resource that required harnessing in the appropriate manner.

Kullak, in 1855, is the first, after Chopin, to delineate the use of the arm as an aspect of touch. He lists 'the touch (stroke) with the arm.' as number 7 in his list of 'seven

varieties' of touch. (Kullak, 1855:98) In 1860, he goes into more detail. Here, on the execution of chords, he describes what I was taught as 'drop and flop':

> A no less excellent aid for legato is found in the freer employment both of wrist and arm.....Let the pupil practice the following:



> the first chord being taken with the wrist bent upward. Before striking the second, the wrist sinks completely, so that the cushion of the thumb almost touches the wood below the keys; here too the principle obtains, that the study of each movement is to be forwarded by its exaggeration. Let the second chord then be struck, with the same upward bend of the wrist, as the first. The wrist is again dropped while the second chord is sustained, and again lifted before striking the third, etc. For each separate chord, the wrist begins with its highest position, and ends with its lowest...The fingers retain very nearly their firm, passive form. (Kullak, 1972:153)

Later he writes:

> The arm-stroke is employed either for single notes, chords, or octaves. Singing notes, which have to penetrate through broad masses of tone, take the same,...and chords, whether they have the melody, or are in general to be strongly accented...the left hand in particular must study this effect for the execution of forceful bass notes.(Kullak, 1972: 192)

By the late 19th century, no pedagogical treatise would be complete without a section on arm weight, but it's still the power aspect that reigns:

- Matthay: The Third Species [arm-weight] gives you the full range in tone amount, but you cannot apply it in quick passages.(Matthay, 1924:10)
- Gat: As a general rule, however, we may state that the more massive the tone required (e.g. imitation of wind instruments), the more desirable the use of the arm as a whole.(Gat, 1965:121)
- Kendall Taylor: The act of touch when using the arm actively behind the fingers is a complex one involving a combination of

> arm, wrist, and fingers. The whole arm, reacting against the shoulder, will be involved, but for tone of a moderate intensity the leverage of the fore-arm and the supple rise and fall of the wrist will be the most prominent visible features. For heavier tone there will be, in preparation for tone-production, a more appreciable lifting of the upper arm; the shoulder will not be lifted but there will be some momentary tension there. As the arm lifts so will the wrist rise with complete freedom and suppleness....(Taylor, 1981:13)

Chopin's Piano

Chopin saw many changes in the piano during his lifetime. His early years were spent on the kind of Viennese pianos to which Hummel refers. They are very light in action with a quite thin tone. Though Pleyel's pianos (Chopin's favourite) were more on the English design they were, in Chopin's first years in Paris, still remarkably light:

> The Pleyel has an easier action than that of any other Parisian manufacturer.(von Lenz, 1982: 83)

> …these Pleyel pianos which he particularly cherished for their silvery and slightly veiled sonority and their lightness of touch. (Liszt, 1863:91)

Chopin and Arm-weight

In this famous quote Chopin makes quite clear he requires the *whole* arm's involvement in playing:

> Just as we need to use the conformation of the fingers, we need no less to use the rest of the hand, the wrist, the forearm and the upper arm. One cannot try to play everything from the wrist, as Kalkbrenner claims. (Eigeldinger, 1988:41)

Notice he talks of Kalkbrenner playing *from* the wrist not *with* the wrist. This is a subtle, but major distinction. *From* the wrist is Matthay's second species (Hand exerted "behind" finger, with self-supported arm.); *with* the wrist Matthay's third and final species (Arm-weight lapsed afresh behind hand and finger for each note.). Chopin is elucidating his adoption of arm-weight as a major tool in his technique. This is many years before Kullak and perhaps *the* first instance in the piano literature. Emilie Gretsch, one of his most talented pupils, confirms this requirement for arm-weight:

> However, on this type of piano [heavy] it is impossible to obtain the subtlest nuances with movements of the wrist and forearm, as well as of each individual finger. These nuances - I've experienced them as Chopin's on his beautiful piano, with its touch so close to that of Viennese instruments. (Eigeldinger, 1988:26)

Chopin's Aesthetics of Arm-weight

This brings us to the question: 'Why, when his light pianos by no account needed this technique, did he utilize it?' and *that* gets us to what is at the heart of Chopin's playing – the breath of the singer, the breath of the phrase.

> The wrist: respiration in the voice. (Eigeldinger, 1988:26)

> Today Chopin showed me another new, simple way of obtaining a marvellous result...At every point where a singer would take a breath, the accomplished pianist...should take care to raise the wrist so as to let it fall again on the singing note with the greatest suppleness imaginable. (Eigeldinger, 1988:45)

> Whenever this mark [phrase] terminated he detached the hand after having diminished the tone. (Eigeldinger, 1988:45)

This is an *aesthetic* use of the playing body - a use unique to Chopin and one he was justly proud of. Though indeed arm-weight technique, it resides totally in an aesthetic realm; the 'tone' or 'intensity' rationales of later decades mentioned above being purely mechanical innovations.

Chopin and Movement

It is doubtful the voice was the only aesthetic influence on Chopin's movements at the keyboard. For so receptive an artist as Chopin, dance — the natural, contagious dance of the folk musician — may also have been a model.

- Is that the 'new world' he speaks of? [But I would be willing to stick to it or three years, if that will only enable me to take a big step forward in what I have undertaken. I understand enough not to become a copy of Kalkbrenner; nothing will interfere with my perhaps overbold but at least not ignoble desire to create a new world for myself; and if I work, it is in order to have a firmer standing.] (Opienski, 1931:160)
- The 'new instrument' Jane Stirling refers to? [...As for the beautiful and bright philosophy on the art of piano-playing [Chopin's], as a result of which the piano has become a new instrument, there is no mention, which makes me wonder! Did he understand nothing? Or did he wish to stay silent? (Stirling to Jedrzjewicz, in "Chopin Studies" 1, 1985:110)
- The 'thousand nuances of movement' most 'secret' that impresses Berlioz? [His playing is shot through with a thousand nuances of movement of which he alone holds the secret, impossible to convey by instructions.] (Eigeldinger, 1988: 272)
- 'What each one of them [first-rank artists] lacks?'[…in short, if I were still stupider than I am, I should think myself at the apex of my career; yet I know how much I still lack, to reach perfection; I see it the more clearly now that I live only among first-rank artists and know what each one of them lacks.] (Opienski, 1931:169). I presume to think so.

Chopin spent two formative summers in the Polish countryside – 1824 and 1825 – just as he began writing Mazurkas and Polonaises. Zamoyski paints a typical experience:

> What fascinated him more than anything else was the, to him, totally new world of folk music. Until now the only popular music he had

> heard was Warsaw street-musicians' versions of folk songs and dances, which were very different from the original article. Now he listened to peasant girls singing their songs of love or sorrow, to the old women chanting in the fields, and to the drinking songs issuing from the village inns. At the end of August [1824], when the whole house-party drove over to a neighbouring estate for the harvest festival, he saw Mazovian dances being performed late into the night. (Adam, 1979:29)

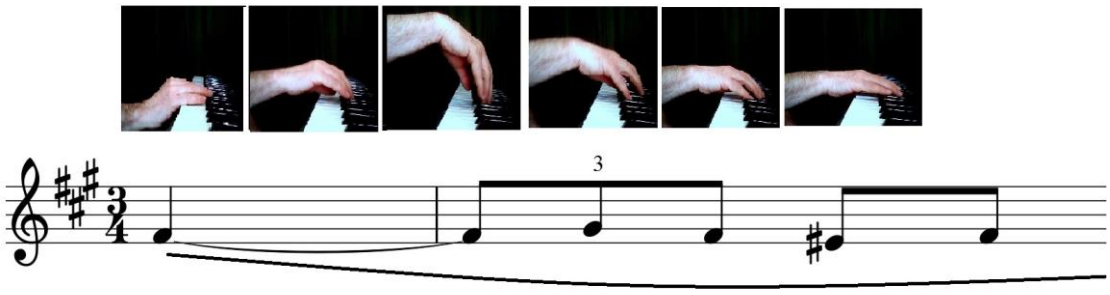
Above are still shots from a single four-bar phrase of a Mazurka performed by Kapela Braci Dziobaków. (https://www.youtube.com/watch?v=huQ1-Ca2adg, accessed 25 March 2015).

In the second, even her right foot is in the air! It shows clearly the kind of thing Chopin would have seen and heard. Could it be played solely from the wrist? I doubt Chopin would have thought so.

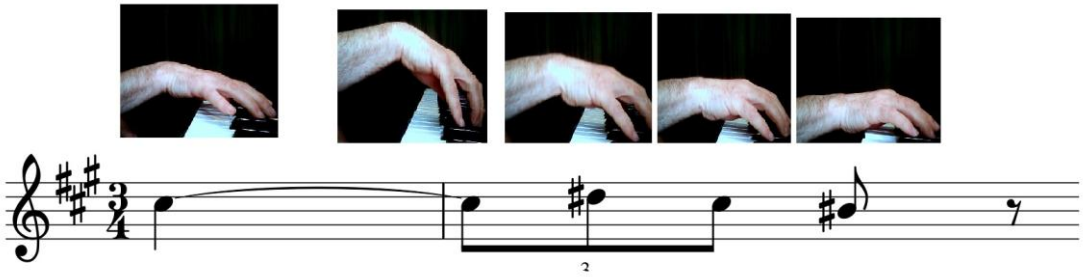
Where do we see this influence? In most any work by Chopin but especially in his firsts - the first Etude, the first Mazurka, the first Waltz, even the first Prelude. Through them he seemingly proclaims his arm-weight technique to the world; a technique without which they lack a basic sense. The Mazurkas are a special case, as Bie noted:

> ...It was easy to see that almost every one of Chopin's compositions, even if it was *not* a Mazurka, sprang from the rhythm and sentiment of the Mazur (Magyar) music...(Bie, 1899:259)

Here is an example from the first Mazurka op. 6, bar 1. Notice the wrist rises on the held note – as if drawing a breath – and takes the next three notes at a stroke - like a violin bow. [As Thomas Fielden noted: "Performers should bear in mind the saying that 'an Eastern European is born with a violin in his hand.' In every Mazurka there is a violin atmosphere."]



Again from bar 5:



The same happens in bar 6, 7, and 8 (http://youtu.be/5APSbPBzuDA, accessed 25 March 2015).

In Scotland in the last year of his life his playing was often compared to that of flowing water:

> And every observation ends with: - "*leik [sic] water,"* meaning that it flows like water.
> I have not yet played to any Englishwoman without her saying to me:- *Leik water!!!*
> (Opienski, 1931: 395)

Is it any wonder when gravity was doing much of the guidance? I'll leave the last word with Chopin:

Laissez tomber les mains. (Eigeldinger, 1988: 30)

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Web

https://www.youtube.com/watch?v=huQ1-Ca2adg
http://youtu.be/5APSbPBzuDA

Steve Rodman (B. Mus, PGCE, DipABRSM) is a classroom music specialist who has spent the last 20 years in the secondary school environment, mostly as Head of Music, but presently in the capacity as instrumental teacher. His early musical education was on oboe in Canada where he studied with Richard Dorsey recently retired Principle Oboe of the Toronto Symphony and in London with Celia Nicklin, Principle Oboe of the Academy of St Martin in the Fields. After leaving college he pursued a career in music education spending many years studying piano under Carola Grindea where he developed an interest in piano pedagogy and more specifically best practice in problems of posture and tension in all instrumental fields. He is currently researching body image/body schema and its ramifications in relation to students' early interaction with musical instruments with a view to positive intervention - Best Practice for the Best Start. He is also ISSTIP's (mailto:admin@isstip.org) web administrator, the first stop for enquiries about our webpage.

MEMBERS' CORNER

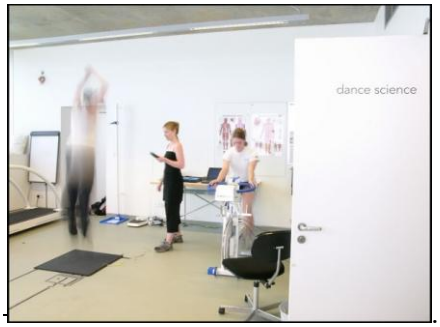
PERFORMING ARTS MEDICINE - SCIENCE BEHIND THE ART

We are pleased to welcome **Isabel Artigues** as a new member in ISSTIP.

Isabel Artigues is a Chartered Physiotherapist and Specialist in Performing Arts Medicine (MSc, UCL) combining diverse clinical experience and CPD with a huge passion for and dedication to the growing field of Performing Arts Medicine and Science. As a physiotherapist as well as a trained musician (Grade 8 in Flute from the Superior Municipal Conservatoire of Music, Barcelona), she strives to deliver high standards using evidence-based Physiotherapy and Health & Wellbeing advice to enhance performers to achieve and maintain their best.

Isabel practises at the in-house Health Centre at Trinity Laban Conservatoire of Music and Dance, one of the few Conservatoires in London and in the UK to have a clinic for the students and a pioneer institution in Dance and Music Performance Science research.

Working at Trinity Laban she gets to treat a vast range of dancers and musicians. On top of her work in clinic, Isabel holds weekly meetings with teachers, Students' Union and the rest of the physio team to discuss students' progress, and works closely with the students in order to raise awareness and prevent injuries. She appreciates the busy schedules of students and artists and aims to make them appreciate that, while they are artists, they also have to act and think like athletes to preserve their physical and mental health.



"At the Science Lab, we run Dance Screenings every term, where we look at body type, fitness levels and symmetry in flexibility/strength. From those conclusions we then run specific workshops so students can learn more about the areas where they scored lower, and how to improve", remarks Isabel.

Isabel informs us about the newest project at the Dance & Music Performance Science Department: the *Musical Impact* — a research initiative looking at generating new knowledge of the physical and mental demands of music making, contributing new insight into chronic and acute health problems and their impact over time, and examining effective strategies for health promotion.

With regard to her work with musicians, she states: "Few pursuits are as dynamic and enjoyable as making music. Physical and mental wellbeing can shape how musicians pursue their art and the pleasure they take from it. The results of recent research, however, suggest that pain and ill health are widespread among musicians and that healthy approaches to training and working in music are far from uniform throughout the profession."

Outside the clinic, Isabel has experience in teaching and lecturing (Trinity Laban Conservatoire of Music and Dance, The Institute of Contemporary Music Performance London, The Institute of the Arts Barcelona); research in Hypermobility (publications in the Journal of Clinical Rheumatology and the BAPAM Journal) and she regularly attends conferences and networking opportunities in the field in the UK and abroad.

Based on her London experience Isabel recently opened IAB Health, a similar setting in-house clinic within the Institute of the Arts Barcelona (her hometown). She is now engaged with the establishment and management of this integrated clinic, aiming to share and expand the Performing Arts Medicine and Science principles and goals in her native country too.

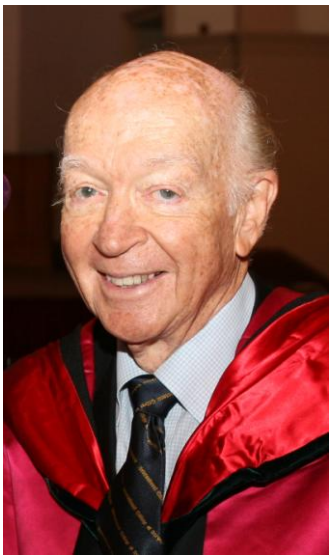
Isabel can also be found at the Victory Health Physiotherapy Centre www.victoryhealthandperformance.com in central London and can be contacted via email on isabelpamphysio@gmail.com

We are honoured to have Isabel as a new member and we wish her every success with her projects.

- **Jamaica ISSTIP member, Joy Fairclough,** has authored the revised books of: *Music with Mathematics Principles, How to Teach, How to Learn, Towards Exam Mastery in Music, Mathematics, and Other Subjects* (JoyMusic, LTD) ISBN-978-976-95208-6-8, http://joymusic.web.com.

ISSTIP OBITUARIES

Dutch member, Annamieke Pernet, passed away in May. Dr. Hara Trouli reports, "I do not know the circumstances of her passing but Annemieke has been a great supporter of ISSTIP and kept attending all of our London events. She will be missed." Another ISSTIP member, Damjana Zupan, from Slovenia, commented: "I do remember Annemieke's gentle energy. May the memory of her continue to join us together."



Dr. Earl Owen of Sydney, Australia, passed away on 22 May 2014, at the age of 80. He was instrumental in promoting the ISSTIP courses with founder, Carola Grindea. They had a long and close friendship, one of mutual respect. "Prof. Owen was regarded as a world pioneer of microsurgery, pioneering 16 microsurgical world firsts including the first microsurgical vasectomy reversal 1970, the first hand transplant in France (Lyon) in 1998 followed by the first double hand transplant in 2000….His life involved great personal sacrifice to advance human endeavour and reduce suffering across the globe through his training doctors all over the world by running over 80 microsurgical workshops over four decades in scores of countries.Prof. Earl Ronald Owen AO, Legion d'Honneur, will be missed dearly by his family and by one and all that have been touched by his incredible humanity." (http://www.phlebology.com.au/news/view/prof--earl-owen-obituary, accessed 17 June 2015).

Earl Owens was a gifted pianist who studied with the famous pianist Solomon who came to Owens' boyhood home to give him lessons. Although his love for the piano never waned, he always wanted to be a surgeon. His career in medicine coupled with his innate understanding of musicians' problems led him to become one of the world's leading experts in musicians' health. He lectured at the Sydney Conservatorium of Music, created the Musicians' Clinic there, was consultant to all of Australia's major symphonies, and consulted with all of Australia's leading experts in musicians' health. A highly gifted pianist, he pursued a career in medicine – going on to become one of the world's leading experts in musicians' health. Professor Owen is also credited with the ergonomic design of the chairs, in each of the auditoriums of the Sydney Opera House. He is sorely missed by friends, colleagues, family, and ISSTIP members.

Some Articles in past journals:

Winter 2010

Integrating Qi-Gong/Tai Chi Practice with Piano Practice: Consideration and Benefits,
Andrew Krauss
On the Importance of Sitting Correctly at the Piano,
Peter Feuchtwanger
Finger Substitution on the Piano: Towards a Tension-Free Technique,
Justin Krawitz
Working Towards Healthy Playing – A Practitioner's Tips**,**
Dr Karenna Caun
Psychology and the Professional Singer,
Dr Marcia Willis
What are the Most Significant Factors Affecting the Emotional Response of Performing Musicians?,
Hannah Cunnington
"Bosom Up!" A Physiological Approach,
Steven Rodman
A Profile of Young Pop Musicians Starting at the Tech Music Schools,
Phil Casey and Andy Evans
Personal Reflections: My Experience with Piano-related Injury,
Joanna Cai

Autumn 2010

The Contribution of Research to the Treatment of Performance Anxiety for Use by Educators,
Katrina Rumball
Standing Up is Hard to Do ,
Steven Rodman
The *Trager*® Approach and the Performing Artist,
Martin Clout
Psychology and the Professional Singer (Part 2): Performance anxiety, stress management andimproving performance,
Dr Marcia Willis
Stress for Musicians: Where is it?,
Dr Laxmi Patel
Pianists Behaving Badly,
Peter Feuchtwanger
Personal Reflections:The Effect of Past Negative Experience and Emotion on Voice and Performance, *Lorraine Norton*

Spring 2011

Identifying Negative Tensions in Singing: Finding Ways in which the Feldenkrais Method can relieve its Inhibiting Effect on Vocal Performance , *Morag McLaren*
Posture at the Piano: Body Awareness for Pianists,
Hao Huang and I-Ching Tsai
Actors Acting: Work-related Psychological Problems,
Lambros Yotis, Dimitris Reissis
Investigating E-Motional Meaning in Music Performance,
António Salgado
Piano Exercises for Curing Playing Related Disorders & for Acquiring a Functional and Natural Approach to Piano Playing, *Peter Feuchtwanger*
Pigs Fly? They Can't Even Run,
Steven Rodman
Meet the Experts: Interview with D. Garfield Davies,
Hara Trouli
Researcher's Armchair ,
Nancy Lee Harper

Guidelines for Authors

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A) Articles in Scientific Journals
1- Reference in Text: (Wellmer, 1984: 90).
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B) Books with 1 Author:
1- Reference in Text: (Lerdahl, 2001: 101)
2- Bibliography (at end): Lerdahl, F. (2001) *Tonal Pitch Space*. Oxford: Oxford University Press.

C) Books with various Authors:
1- Reference in Text: (Lerdahl & Jackendoff, 1983: 95)
2-Bibliografia: Lerdahl, F., & Jackendoff, R. (1983) *A Generative Theory of Tonal Music*. Cambridge, MA: MIT Press.

D) Chapters in Books:
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Analytical Theory to Performance and Interpretation", in E. Narmour and R. A. Solie (eds) *Explorations in Music, the Arts and Ideas*, pp. 317-340. Stuyvesant, NY: Pendragon.

E) Dissertations:
1- Reference in Text: (Mackay, 1976: 51).
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Selected Piano Works of the Twentieth Century', unpublished doctoral dissertation, Ball State University. If published, then the dissertation would be placed in italics with the requisite information of publisher and place, as with book references.

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G) CDs, DVDs and other multi-media
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